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10/805,748	03/22/2004	Nasreen Chopra	10030543-1	9580

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EXAMINER	
REDDING, THOMAS M	
ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/805,748	CHOPRA ET AL.	
	Examiner	Art Unit	
	THOMAS M. REDDING	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's response received on 1/17/2008 is fully considered herein. Claims 1-30 are currently pending.

Specification

In response to applicant's amendment of the specification, correcting the citation for the document incorporated by reference, the objection to the citation is withdrawn.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 8 recites the limitation "wherein the at least one parameter " in line 1. The parent claim does mention an "image parameter" but makes no specification as to number of parameters. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, this claim will be read as "The method of Claim 1, wherein the image parameter is an image processing parameter".

Claim Rejections - 35 USC § 102

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 17, 18 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawashima et al. (US 6,079,862).

Regarding claim 17, Kawashima teaches [a]n inspection system for providing feedback during an inspection of an object, comprising:

a processor connected to receive first image data representing the object, the first image data being produced using an image parameter (Kawashima figure 1, Image recognition unit 5 is a processor that receives an image from CCD camera 4),

said processor being operable to determine parameter modification information for the image parameter from the first image data for use in producing second image data representing the object (Kawashima, figure 1, the coordinate calculation unit 6, based on information from the image recognition unit 5, adjusts the camera position which will affect the next picture).

Regarding claim 18, Kawashima teaches further comprising:

a sensor disposed in relation to the object to receive illumination projected from the object (Kawashima, figure 1, the camera 4 receives light from the object 8), capture a first image of the object and produce first raw image data representing the first image, said sensor being connected to provide the first raw image data to said processor (Kawashima figure 4, camera 4 connected to image recognition unit 4, generates an image).

Regarding claim 27, Kawashima teaches wherein the image parameter is a view parameter controlling the positional relationship between said sensor and the object (Kawashima, figure 1, reference 4 is a CCD camera that is used to track an object 8 using positioning information 6 from the camera to control the position of the light/camera combination 7).

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-4, 7, 12, 13, 16-18, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (US 6,704,054).

Regarding claims1 and 17, Hashimoto discloses [a] method for providing feedback during an inspection of an object, the method comprising:

receiving first image data representing the object, the first image data being produced using an image parameter ("An image pickup circuit 6 receives an electric signal produced by the photoelectric conversion by the CCD 5", Hashimoto, column 4, line 49", Hashimoto starts a feedback process by capturing an image with the lens in a starting configuration);

modifying the image parameter to a modified image parameter with the parameter modification information ("An AF processing circuit 14 performs an autofocusing processing (AF processing) upon receipt of the output of the A/D conversion circuit 7", Hashimoto, column 5, line 14 and "An AE processing circuit 13 performs an automatic exposure (AE) processing upon receipt of an output of the A/D conversion circuit 7", Hashimoto, column 5, line 11);

and receiving second image data representing the object, the second image data being produced using the modified image parameter ("The release SW is of a common type constructed of two switches. A first-stage switch (which will be referred to hereinafter as a 1st. release SW) generates an instruction signal to start an AE operation and an AF operation to be conducted prior to an imaging operation. A second-stage switch (which will be referred to hereinafter as a 2nd. release SW) receives a signal from the 1st. release SW to issue an instruction signal to start an exposure operation", Hashimoto, column 6, line 8, Hashimoto captures a second image after the auto-exposure and auto-focus processing is complete).

Hashimoto does not explicitly teach determining parameter modification information for the image parameter from the first image data.

However, since Hashimoto does adjust the lens settings based on the output of the A/D conversion circuit ("An A/D conversion circuit 7 converts the image signal (analog signal) produced by the image pickup circuit 6 into a digital signal", Hashimoto, column 4, line 52, and "Concretely, the CPU controls the first motor driving circuit 18 on the basis of the AE evaluation value calculated in the AE processing circuit 13, to drive the diaphragm motor 21 to adjust the diaphragming quantity of the diaphragm section 4 to an appropriate value", Hashimoto, column 7, line 34), it would have been obvious at the time the invention was made for one of ordinary skill that lens settings correspond to an input parameter for Hashimoto's acquisition process and Hashimoto is using feedback to tune this parameter (Hashimoto figure 3).

Further regarding claim 17, Hashimoto teaches a processor to implement the system described above (Hashimoto, figure 1, reference 15 – CPU).

Regarding claim 18, Hashimoto teaches further comprising:

a sensor disposed in relation to the object to receive illumination projected from the object, capture a first image of the object and produce first raw image data representing the first image, said sensor being connected to provide the first raw image data to said processor (Hashimoto, figure 1, reference 5 – CCD, The raw image from

the CCD is processed through the A/D circuit 7 and passed onto the auto- exposure and auto-focusing circuits for calculating updated acquisition parameters).

Regarding claim 2, Hashimoto teaches wherein the image parameter is an image acquisition parameter ("An AE processing circuit 13 performs an automatic exposure (AE) processing upon receipt of an output of the A/D conversion circuit 7", Hashimoto, column 5, line 11).

Regarding claims 3 and 13, Hashimoto teaches wherein said determining includes processing the first image data to calculate the parameter modification information for the image acquisition parameter ("The release SW is of a common type constructed of two switches. A first-stage switch (which will be referred to hereinafter as a 1st. release SW) generates an instruction signal to start an AE operation and an AF operation to be conducted prior to an imaging operation. A second-stage switch (which will be referred to hereinafter as a 2nd. release SW) receives a signal from the 1st. release SW to issue an instruction signal to start an exposure operation", Hashimoto, column 6, line 8, Hashimoto captures a second image after the auto-exposure and auto-focus processing based on previous image data is complete).

Regarding claim 4, Hashimoto teaches wherein said producing the first image data includes capturing a first image of the object, and wherein said producing the

second image data includes capturing a second image of the object ("The release SW is of a common type constructed of two switches. A first-stage switch (which will be referred to hereinafter as a 1st. release SW) generates an instruction signal to start an AE operation and an AF operation to be conducted prior to an imaging operation. A second-stage switch (which will be referred to hereinafter as a 2nd. release SW) receives a signal from the 1st. release SW to issue an instruction signal to start an exposure operation", Hashimoto, column 6, line 8, Hashimoto captures a second image after the auto-exposure and auto-focus processing based on previous image data is complete).

Regarding claim 7, Hashimoto teaches wherein the image acquisition parameter is at least one of an illumination parameter, resolution parameter, sensor parameter or image view parameter ("An AE processing circuit 13 performs an automatic exposure (AE) processing upon receipt of an output of the A/D conversion circuit 7", Hashimoto, column 5, line 11, Exposure is an image view parameter, i.e. changing exposure would alter the appearance of the image).

Regarding claim 12, Hashimoto teaches all the elements that are common with claim 1.

Regarding claim 16, Hashimoto teaches image acquisition parameter is at least one of an illumination parameter, resolution parameter, sensor parameter or image view

parameter ("An AE processing circuit 13 performs an automatic exposure (AE) processing upon receipt of an output of the A/D conversion circuit 7", Hashimoto, column 5, line 11, Exposure is an image view parameter, i.e. changing exposure would alter the appearance of the image).

Regarding claim 25, Hashimoto teaches wherein the image parameter is a sensor parameter associated with said sensor (Hashimoto, figure 1, reference 5 – CCD, The raw image from the CCD is processed through the A/D circuit 7 and passed onto the auto- exposure and auto-focusing circuits for calculating updated acquisition parameters, focus and exposure are both parameters associated with the camera).

Regarding claim 26, Hashimoto teaches wherein the sensor parameter is at least one of an exposure duration of said sensor or a resolution associated with the first raw image data ("An AF processing circuit 14 performs an autofocusing processing (AF processing) upon receipt of the output of the A/D conversion circuit 7", Hashimoto, column 5, line 14, Hashimoto's focus parameter affects the resolution of the raw image).

3. Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dube et al. (US 6,782,143) in combination with Hashimoto (US 6,704,054).

Regarding claim 8, Dube working a similar problem solving area of image processing with feedback does teach wherein the at least one parameter is an image processing parameter ("In accordance with a first aspect of the present invention, a method and an apparatus for processing an image classifies the image content of a portion of the image, and in response thereto, selects between linear and non-linear interpolation methods to interpolate data points for the portion of the image", Dube, column 2, line 9).

Dube does not teach all the elements of claim 1.

Hashimoto does teach all the elements of claim 1 as given above.

It would have been obvious to one of ordinary skill at the time the invention was made to use the camera of Hashimoto in the system of Dube to "provide an autofocusing system, for use in an electronic image pickup apparatus, which is capable of surely conducting a focal position detecting operation at a high speed to obtain a highly accurate focal position detection result even in near photography" (Hashimoto, column 3, line 17, Hashimoto's camera can auto-adjust to provide a consistently good input image).

Regarding claim 11, the combination of Dube and Hashimoto teaches wherein the image processing parameter is at least one of a processing type parameter or a processing complexity parameter ("In accordance with a first aspect of the present invention, a method and an apparatus for processing an image classifies the image content of a portion of the image, and in response thereto, selects between linear and non-linear interpolation methods to interpolate data points for the portion of the image", Dube, column 2, line 9).

4. Claims 5, 6, 14, 15 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peleg (US 4884696) in combination with Hashimoto (US 6,704,054).

Regarding claim 5, Peleg, working in a similar problem solving area of automatic inspection and classification does teach determining an incorrect classification of at least one feature of the object based on the first image data as a result of an original setting of the image acquisition parameter ("These may include, on line continuous sampling and statistical inference as to the probability densities of the inspected and the classified products, while assessing the probabilities of classification errors i.e. the accuracy of the machine", Peleg, column 4, line 68),

calculating the parameter modification information to correct the incorrect classification and modifying the original setting of the image acquisition parameter to a modified setting based on the parameter modification information ("These classification error probabilities may then be used as feedback data to said machine learning

algorithm enabling automatic optimal classification scale adjustment", Peleg, column 5, line 4).

Peleg does not teach the method of claim 4.

Hashimoto teaches [t]he method of Claim 4 as given above.

It would have been obvious to one of ordinary skill at the time the invention was made to use the camera of Hashimoto in the system of Peleg to "provide an autofocusing system, for use in an electronic image pickup apparatus, which is capable of surely conducting a focal position detecting operation at a high speed to obtain a highly accurate focal position detection result even in near photography" (Hashimoto, column 3, line 17, Hashimoto's camera can auto-adjust to provide a consistently good input image).

Regarding claim 6, the combination of Peleg and Hashimoto teaches wherein said producing the first image data includes producing first raw image data representing the first image using the original setting of the image acquisition parameter ("An image pickup circuit 6 receives an electric signal produced by the photoelectric conversion by the CCD 5", Hashimoto, column 4, line 49", Hashimoto starts a feedback process by capturing an image with the lens in a starting configuration),

and wherein said producing the second image data includes producing second raw image data representing the second image using the modified setting of the image acquisition parameter ("An A/D conversion circuit 7 converts the image signal (analog signal) produced by the image pickup circuit 6 into a digital signal", Hashimoto, column 4, line 52, and "Concretely, the CPU controls the first motor driving circuit 18 on the basis of the AE evaluation value calculated in the AE processing circuit 13, to drive the diaphragm motor 21 to adjust the diaphragming quantity of the diaphragm section 4 to an appropriate value", Hashimoto, column 7, line 34 and "A second-stage switch (which will be referred to hereinafter as a 2nd. release SW) receives a signal from the 1st. release SW to issue an instruction signal to start an exposure operation", Hashimoto, column 6, line 12, Hashimoto captures a second image after the auto-exposure and auto-focus processing based on previous image data is complete).

Regarding claims 14, the combination of Peleg and Hashimoto teaches wherein said determining further includes determining an incorrect classification of at least one feature of the object based on the image data as a result of said setting ("These may include, on line continuous sampling and statistical inference as to the probability densities of the inspected and the classified products, while assessing the probabilities of classification errors i.e. the accuracy of the machine", Peleg, column 4, line 68).

Regarding claim 15, the combination of Peleg and Hashimoto teaches wherein said determining the parameter modification information further includes determining the parameter modification information to correct the incorrect classification and produce an adequate classification from the second image ("These classification error probabilities may then be used as feedback data to said machine learning algorithm enabling automatic optimal classification scale adjustment", Peleg, column 5, line 4).

Regarding claim 19, the combination of Peleg and Hashimoto teaches wherein said processor includes an image analysis processor operable to process the first raw image data to produce first processed image data (Hashimoto, figure 1, reference 5 – CCD, The raw image from the CCD is processed through the A/D circuit 7 and passed onto the auto- exposure and auto-focusing circuits for calculating updated acquisition parameters).

Regarding claim 20, the combination of Peleg and Hashimoto teaches wherein the first raw image data is the first image data, and wherein the image analysis processor is operable to process the first raw image data to measure the parameter modification information for the image parameter (Hashimoto, figure 1, The raw image from the CCD is processed through the A/D circuit 7 and passed onto the auto-exposure and auto-focusing circuits for calculating updated acquisition parameters).

Regarding claim 21, the combination of Peleg and Hashimoto teaches wherein the first processed image data is the first image data, and wherein said processor further includes a classification processor connected to receive the processed image data, determine an incorrect classification of at least one feature of the object based on the processed image data as a result of an original setting of the image parameter ("These may include, on line continuous sampling and statistical inference as to the probability densities of the inspected and the classified products, while assessing the probabilities of classification errors i.e. the accuracy of the machine", Peleg, column 4, line 68), calculate the parameter modification information to correct the incorrect classification and modify the original setting of the image parameter to a modified setting based on the parameter modification information ("These classification error probabilities may then be used as feedback data to said machine learning algorithm enabling automatic optimal classification scale adjustment", Peleg, column 5, line 4).

Regarding claim 22, the combination of Peleg and Hashimoto teaches wherein said sensor is further configured to capture a second image of the object and produce second raw image data representing the second image using the modified setting of the image parameter ("These classification error probabilities may then be used as feedback data to said machine learning algorithm enabling automatic optimal classification scale adjustment", Peleg, column 5, line 4, The combination of Peleg and Hashimoto has not explicitly taught capturing a second image after modifying a processing parameter, but it would have been obvious at the time the invention was

made for one of ordinary skill to extend the teachings of the combination of Peleg and Hashimoto to acquire a second image to be processed with updated processing parameters in order to keep up with a moving production line).

5. Claims 9, 10, 23 and 24 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Dube et al. (US 6,782,143) and Hashimoto (US 6,704,054) in combination with Peleg (US 4884696).

Regarding claim 9, the combination of Dube and Hashimoto teaches all the elements of claim 8 as given above.

The combination of Dube and Hashimoto does not teach wherein said determining includes determining an incorrect classification of at least one feature of the object based on the first image data as a result of an original setting of the image processing parameter,

calculating the parameter modification information to correct the incorrect classification

and modifying the original setting of the image processing parameter to a modified setting based on the parameter modification information.

Peleg teaches wherein said determining includes determining an incorrect classification of at least one feature of the object based on the first image data as a

result of an original setting of the image processing parameter ("These may include, on line continuous sampling and statistical inference as to the probability densities of the inspected and the classified products, while assessing the probabilities of classification errors i.e. the accuracy of the machine", Peleg, column 4, line 68),

calculating the parameter modification information to correct the incorrect classification and modifying the original setting of the image processing parameter to a modified setting based on the parameter modification information ("These classification error probabilities may then be used as feedback data to said machine learning algorithm enabling automatic optimal classification scale adjustment", Peleg, column 5, line 4).

It would have been obvious at the time the invention was made for one of ordinary skill in the art to use the feedback classification correction method of Peleg in the inspection system of the combination of Dube and Hashimoto "enabling optimal classification scale calibration and automatic adjustment or resetting" (Peleg, column 5, line 53).

Regarding claim 10, the combination of Dube, Hashimoto and Peleg teaches wherein said producing the first image data includes processing raw image data representing an image of the at least one feature of the object using the original setting of the image processing parameter to produce the first image data (Dube, figure 1,

Dube selects a portion of the raw image 24 and 26, and processes it through the classifier 52 to determine how to interpolate),

and wherein said producing the second image data includes processing the raw image data using the modified setting of the image processing parameter to produce the second image data (Dube, figure 1, Dube processes the same image 26 that was passed to the classifier to produce an interpolated output 54, 56).

Regarding claim 23, the combination of Dube, Hashimoto and Peleg teaches wherein said image analysis processor is further operable to process the first raw image data using the modified setting of the image parameter to produce second processed image data (Dube, figure 1, Dube reprocesses the original image data with the parameters calculated by the classifier).

Regarding claim 24, the combination of Dube, Hashimoto and Peleg, teaches wherein the image parameter is at least one of a processing type parameter or a processing complexity parameter ("In accordance with a first aspect of the present invention, a method and an apparatus for processing an image classifies the image content of a portion of the image, and in response thereto, selects between linear and non-linear interpolation methods to interpolate data points for the portion of the image", Dube, column 2, line 9).

6. Claims 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker (US 5,533,139) in combination with Hashimoto (US 6,704,054).

Parker teaches an illumination source disposed in relation to the object to illuminate the object , the image parameter being an illumination parameter controlling said illumination source ("An image processor is coupled so as to control the light level control means and receive the output of the image acquisition means", Parker, column 2, line 42).

Parker does not teach the elements of claim 18.

Hashimoto teaches the elements of claim 18 as given above.

It would have been obvious at the time the invention was made for one of ordinary skill in the art to combine the camera of Hashimoto with the system of Parker to "provide an autofocusing system, for use in an electronic image pickup apparatus, which is capable of surely conducting a focal position detecting operation at a high speed to obtain a highly accurate focal position detection result even in near photography" (Hashimoto, column 3, line 17, Hashimoto's camera can auto-adjust to provide a consistently good input image).

Regarding claim 30, the combination of Parker and Hashimoto teaches wherein said illumination source illuminates the object with light ("An image processor is coupled so as to control the light level control means and receive the output of the image acquisition means", Parker, column 2, line 42).

Parker teaches an illumination source disposed in relation to the object to illuminate the object , the image parameter being an illumination parameter controlling said illumination source ("An image processor is coupled so as to control the light level control means and receive the output of the image acquisition means", Parker, column 2, line 42).

7. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al (US 2003/0142784) in combination with Parker (US 5,533,139) and Hashimoto (US 6,704,054).

Regarding claim 29, Suzuki teaches an illumination source illuminates the object with a beam of X-rays.

Suzuki does not teach the elements of claim 28.

The combination of Parker and Hashimoto teaches the inspection system of claim 28 as given above.

It would have been obvious at the time the invention was made to add the camera and intensity control system as taught by Parker and Hashimoto to the X-Ray inspection system of Suzuki to optimize the radiation levels used, reducing problems caused by excess exposure and reducing the stress on equipment.

Response to Arguments

8. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS M. REDDING whose telephone number is (571)270-1579. The examiner can normally be reached on Mon - Fri 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. M. R./
Examiner, Art Unit 2624

/Vikkram Bali/
Supervisory Patent Examiner, Art Unit 2624